

47. A method according to claim 45 wherein one amino acid residue in the sub-sequence is mutated.

48. A method according to claim 45 wherein the sub-sequence is capable of being digested by a serine protease.

49. A method according to claim 48 wherein the sub-sequence has an amino acid sequence including the sequence: RAAAG.

50. A method according to claim 49 wherein the sub-sequence is mutated by replacing arginine in the sequence: RAAAG with alanine.

51. A method according to claim 48 wherein the sub-sequence has an amino acid sequence selected from the group of sequences shown in SEQ ID NOS: 17 to 44.

52. A method according to claim 51 wherein the sub-sequence is mutated by replacing arginine in the sequence selected from the group of sequences shown in SEQ ID NOS: 17 to 44 with alanine.

53. A method according to claim 48 wherein the sub-sequence is capable of being digested by thrombin and has an amino acid sequence shown in SEQ ID NOS: 8 or 9.

54. A method according to claim 48 wherein the sub-sequence is capable of being digested by plasmin and has an amino acid sequence shown in SEQ ID NOS: 11 or 12.

55. A method according to claim 48 wherein the sub-sequence is capable of being digested by kallikrein.

56. A method according to claim 55 wherein the sub-sequence has an amino acid sequence shown in SEQ ID NOS: 9 or 10.

57. A method according to claim 45 wherein the sub-sequence is capable of being digested by a metalloproteinase.

58. A method according to claim 57 wherein the sub-sequence has an amino acid sequence including the sequence: ALAAA.

59. A method according to claim 58 wherein the sub-sequence is mutated by replacing alanine at any position in the sequence: ALAAA with another amino acid residue.

60. A method according to claim 59 wherein the sub-sequence is mutated by replacing the alanine which is N-terminal to leucine in the sequence: ALAAA with another amino acid.

61. A method according to claim 57 wherein the sub-sequence has an amino acid sequence selected from the group of sequences shown in SEQ ID NOS: 45 to 70.

62. A method according to claim 61 wherein the sub-sequence is mutated by replacing alanine at any position in the sequence selected from the group of sequences shown in SEQ ID NOS: 45 to 70 with another amino acid residue.

63. A method according to claim 62 wherein the alanine that is replaced is N-terminal to leucine.

64. A method according to claim 57 wherein the sub-sequence is capable of being digested by gelatinase A or B.

65. A method according to claim 64 wherein the sub-sequence has an amino acid sequence shown in SEQ ID NO: 13.

66. A method according to any one of claims 45 to 65 wherein the tropoelastin is human tropoelastin.

67. A method for enhancing the susceptibility of a tropoelastin to proteolysis comprising inserting a sub-sequence into the tropoelastin so that the susceptibility of the tropoelastin to proteolysis is enhanced.

68. A method according to claim 67 wherein one sub-sequence is inserted.

69. A method according to claim 67 wherein the inserted sub-sequence is capable of being digested with a serine protease.

70. A method according to claim 69 wherein the inserted sub-sequence has an amino acid sequence including the sequence: RAAAG.

71. A method according to claim 69 wherein the inserted sub-sequence has an amino acid sequence selected from the group of sequences shown in SEQ ID NOS: 17 to 44.

72. A method according to claim 69 wherein the inserted sub-sequence is capable of being digested by thrombin and has an amino acid sequence shown in SEQ ID NOS: 8 or 9.

73. A method according to claim 69 wherein the inserted sub-sequence is capable of being digested by plasmin and has an amino acid sequence shown in SEQ ID NOS: 11 or 12.

74. A method according to claim 69 wherein the inserted sub-sequence is capable of being digested by kallikrein.

75. A method according to claim 74 wherein the inserted sub-sequence has an amino acid sequence shown in SEQ ID NOS: 9 or 10.

76. A method according to claim 67 wherein the inserted sub-sequence is capable of being digested by a metalloproteinase.

77. A method according to claim 76 wherein the inserted sub-sequence has an amino acid sequence including the sequence: ALAAA.

78. A method according to claim 76 wherein the inserted sub-sequence has an amino acid sequence selected from the group of sequences shown in SEQ ID NOS: 45 to 70.

79. A method according to claim 76 wherein the inserted sub-sequence is capable of being digested by gelatinase A or B.

80. A method according to claim 79 wherein the inserted sub-sequence has the amino acid sequence shown in SEQ ID NO: 13.

81. A method according to any one of claims 67 to 80 wherein the tropoelastin is human tropoelastin.

82. A peptidomimetic molecule comprising all or part of a peptide selected from the group consisting of KAPGVGGAF, RAAAGLG, RLSPELREGD, KAAQFGLVPGV, KSAAKVAAKAQLRAA, RLSPELRE AND LAAAKAAKYGAA.

83. A peptidomimetic molecule which has the sequence: H-Ala-Ala-Lys-Ala-Gln-Leu-Arg-Ala-Ala-Ala-Gly-Leu-Gly-Ala-OH or H-Ala-Ala-Lys-Ala-Gln-Leu-Arg-R-Ala-Ala-Ala-Gly-Leu-Gly-Ala-OH (where R = a reduced peptide bond).

84. A peptidomimetic molecule which is a retro-inverso pseudo peptide which has the sequence: H-D-Ala-Gly-D-Leu-Gly-D-Ala-D-Ala-D-Ala-(R)-D-Arg-D-Leu-D-Gln-D-Ala-D-Lys-D-Ala-D-Ala-OH (where R = a reduced peptide bond) or H-D-Ala-Gly-D-Leu-Gly-D-Ala-D-Ala-D-Ala-D-Arg-D-Leu-D-Gln-D-Ala-D-Lys-D-Ala-D-Ala-OH.

85. A peptidomimetic molecule which has the sequence H-Val-Pro-Gly-Ala-Leu-Ala-Ala-Ala-OH or H-Val-Pro-Gly-Ala-(R)-Leu-Ala-Ala-Ala-OH (where R = a reduced peptide bond).

cm⁺
B,
86. A peptidomimetic molecule which is a retro-inverso pseudo peptide which has the sequence: H-D-Ala-D-Ala-D-Ala-D-Leu-(R)-D-Ala-Gly-D-Pro-D-Val-OH (where R = a reduced peptide bond) or H-D-Ala-D-Ala-D-Ala-D-Leu-D-Ala-Gly-D-Pro-D-Val-OH.

87. A method for enhancing the purification of a tropoelastin comprising including a peptidomimetic molecule according to any one of claims 82 to 86 in a crude tropoelastin preparation which is being subjected to purification.

88. A pharmaceutical composition comprising a peptidomimetic molecule according to any one of claims 82 to 86 and a pharmaceutically acceptable carrier.
